

DATE: July 1, 2002

TO: Region Engineers
Region Delivery Engineers
TSC Managers
Resident/Project Engineers
Region Construction Engineers

FROM: Larry E. Tibbits
Chief Operations Officer

John C. Friend
Engineer of Delivery

SUBJECT: Bureau of Highway Instructional Memorandum 2002-12
Polymer Coated Steel Pipe

The Engineering Operations Committee approved the revision of the standard specifications for polymer coated steel pipe, based on a recommendation from the Pipe Selection Task Group. A product qualification procedure has been developed. This qualification procedure will be included in the 2002 revisions to the *Materials Quality Assurance Manual*.

The attached Special Provision for Polymer Coated Steel Pipe is approved for use in projects to be advertised and let under the 1996 and interim 2003 standard specifications, as appropriate. The special provision will be added to the Frequently Used Special Provision lists with the following use statement: "Use on all projects with storm sewers."

In order for polymer coated corrugated steel pipe product to be used, it must be evaluated according to the attached Qualification Procedure for Polymer Coated Corrugated Steel Pipe and be listed in the Material Source Guide Qualified Product List.

Please contact Roger Till (517-322-5682) with any questions regarding the special provisions and qualification procedure. Questions regarding the Qualified Product List or the Materials Source Guide should be addressed to Steve Purdy (517-322-5665).

Chief Operations Officer

Engineer of Delivery

BOHTS:C/T:JAR:kab

Attachments

Subject Index: Materials

cc: C & T Division Staff
Real Estate, M. Frierson
Design Division, P. Miller
Maintenance Division, C. Roberts
Traffic & Safety Division, J. O'Doherty
C & T Division, J. Culp
T. Anderson
J. Friend
OEO - S. El Ahmad
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V. Blaxton
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MRBA
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MRPA
ACEC
MPA

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
POLYMER COATED STEEL PIPE

C&T:RDT

1 of 2

C&T:APPR:JAR:GC:05-30-02
FHWA:APPR:06-12-02

a. Description. This specification revises the requirements for polymer coated steel pipe in the 1996 Standard Specifications for Construction as follows.

Add footnote (f) to Table 402-1 applicable to Corrugated and Spiral Ribbed Steel Pipe only.

(f) Polymer coated corrugated and spiral ribbed steel pipe with wall thicknesses according to Table 909-6 revised herein are allowed for all installations.

Delete the first paragraph of subsection 909.05.A of the 1996 Standard Specifications for Construction and replace with the following paragraph.

Corrugated Steel Pipe. Circular and pipe arch corrugated steel pipe shall conform to the AASHTO M 36M when metallic coated pipe is specified, or AASHTO M 245M using an ethylene acrylic acid film selected from the Qualified Products List when polymer coated pipe is specified, with the following exceptions and additions.

Delete the second paragraph of subsection 909.05.A.1 of the 1996 Standard Specifications for Construction and replace with the following paragraph.

For polymer coated corrugated steel pipe, ethylene acrylic acid film selected from the Qualified Products list meeting AASHTO M 246M Grade 250/250 polymer on zinc coated steel sheet shall be used. Only lock seam pipe are allowed. Riveted pipe is not permitted.

Delete Table 909-6 and replace with the following Table 909-6.

Table 909-6 References for Spiral Ribbed and Corrugated Metal Pipes

(Minimum wall thickness in millimeters to meet structural and durability requirements for various metal pipes to meet the design life.)

Pipe Material Type	Driveway Culverts	Culverts	Sewers
	Minimum Design Life		
	25 years	50 years	70 years
Galvanized Spiral Ribbed Metal Pipe	Table 909-8	2.77	4.27
Aluminized Type 2 Spiral Ribbed Metal Pipe	Table 909-8	Table 909-11	3.51
Polymeric Coated Spiral Ribbed Metal Pipe	Table 909-8	Table 909-8	Table 909-8
Galvanized Corrugated Metal Pipe	Table 909-7	Table 909-9	4.27 ⁽¹⁾
Aluminized Type 2 Corrugated Metal Pipe	Table 909-7	Table 909-10	3.51 ⁽¹⁾
Polymeric Coated Corrugated Galvanized Pipe	Table 909-7	Table 909-7	Table 909-7 ⁽¹⁾
Aluminum Pipe	Table 909-12	Table 909-13	Table 909-14
Aluminum Spiral Ribbed Pipe	Table 909-15	Table 909-16	Table 909-17

Numbers represent the minimum durability gage requirements for the specific pipe material.

Table 909-7 represents the minimum structural gage thickness requirements for corrugated steel pipe.

Table 909-8 represents the minimum structural gage thickness requirements for spiral ribbed steel pipe.

(1) Permitted for 300 - 450 mm diameter 68 mm x 13 mm helically corrugated pipe only.

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POLYMER COATED STEEL PIPE

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FHWA:APPR:06-12-02

a. Description. This specification revises the requirements for polymer coated steel pipe in the Standard Specifications for Construction as follows.

Add footnote (k) to Table 402-1 applicable to Corrugated and Spiral Ribbed Steel Pipe only.

(k) Polymer coated corrugated and spiral ribbed steel pipe with wall thicknesses according to Table 909-6 revised herein are allowed for all installations.

Delete the first paragraph of subsection 909.05.A of the Standard Specifications for Construction and replace with the following paragraph.

Corrugated Steel Pipe. Circular and pipe arch corrugated steel pipe shall conform to the AASHTO M 36 when metallic coated pipe is specified, or AASHTO M 245 using an ethylene acrylic acid film selected from the Qualified Products List when polymer coated pipe is specified, with the following exceptions and additions.

Delete the second paragraph of subsection 909.05.A.1 of the Standard Specifications for Construction and replace with the following paragraph.

For polymer coated corrugated steel pipe, ethylene acrylic acid film selected from the Qualified Products list meeting AASHTO M 246 Grade 250/250 polymer on zinc coated steel sheet shall be used. Only lock seam pipe are allowed. Riveted pipe is not permitted.

Delete Table 909-6 and replace with the following Table 909-6.

Table 909-6 References for Spiral Ribbed and Corrugated Metal Pipes

(Minimum wall thickness in inches to meet structural and durability requirements for various metal pipes to meet the design life.)

Pipe Material Type	Driveway Culverts	Culverts	Sewers
	Minimum Design Life		
	25 years	50 years	70 years
Galvanized Spiral Ribbed Metal Pipe	Table 909-8	0.109	0.168
Aluminized Type 2 Spiral Ribbed Metal Pipe	Table 909-8	Table 909-11	0.138
Polymeric Coated Spiral Ribbed Metal Pipe	Table 909-8	Table 909-8	Table 909-8
Galvanized Corrugated Metal Pipe	Table 909-7	Table 909-9	0.168 ^(a)
Aluminized Type 2 Corrugated Metal Pipe	Table 909-7	Table 909-10	0.138 ^(a)
Polymeric Coated Corrugated Galvanized Pipe	Table 909-7	Table 909-7	Table 909-7 ^(a)
Aluminum Pipe	Table 909-12	Table 909-13	Table 909-14
Aluminum Spiral Ribbed Pipe	Table 909-15	Table 909-16	Table 909-17

Numbers represent the minimum durability gage requirements for the specific pipe material.

Table 909-7 represents the minimum structural gage thickness requirements for corrugated steel pipe.

Table 909-8 represents the minimum structural gage thickness requirements for spiral ribbed steel pipe.

(a) Permitted for 12 to 18 inch diameter 2-2/3 x 1/2 inch helically corrugated pipe only.